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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,217	05/12/2006	Masaki Fukumori	Q9-4802	1178
23373 7590 07/06/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER NGUYEN, VU ANH				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
07/06/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/579,217

**Applicant(s)**

FUKUMORI ET AL.

**Examiner**

Vu Nguyen

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/08/2009 has been entered.

### ***Response to Amendment***

2. The set of claims to be examined was filed on 05/11/2009. Claims 1-5, 7 and 8 are pending in this application.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oharu et al. (JP 2001-107031 A). (*See English Translation of record*).
6. Regarding the limitations set forth in these claims, Oharu et al. (Oharu, hereafter) teaches an aqueous water- and oil-repellent dispersion [0001] comprising, in one embodiment, (A) a copolymer comprising perfluoroalkyl ethyl acrylate, dioctyl maleate and acrylamide, and (B) four nonionic surfactants: 4.8 g of one with HLB value of 4, 2.4 g of one with HLB value of 7.95, 8.4 g of one with HLB value of 16.2, and 2.4 g of one with HLB value of 17 [0062]. Corresponding to the ratio recited in claim 1, the amounts of surfactants disclosed by Oharu is (HLB less than 12 : HLB from 12 to less than 17 : HLB of 17 or greater) = 40 : 47 : 13. The surfactants are employed during the emulsion polymerization of the fluorine-containing copolymer and include alkyl polyoxyethylene [0040] wherein the alkyl part includes C4-C26 saturated straight-chain or branched aliphatic groups, including dodecyl, which is C<sub>12</sub>H<sub>25</sub> [0041], and the number of the oxyethylene repeating units is 1-50. These surfactants clearly include the second species recited in the last line of claim 1. The prior art also teaches the material of claim 17 and the method of claim 18 [0060 & 0066].
7. It is clear that the essential difference between the claimed invention and the teachings of the prior art is the slight difference in the ratios of the surfactants:

HLB value:	<u>less than 12</u>	<u>from 12 to less than 17</u>	<u>17 and above</u>
Claimed ratio:	(20-40)	(50-70)	(10-20)
Prior art ratio:	40	47	13

8. The disclosed number of 47 is very close to touching the claimed range of 50-70. Further, Oharu does not place any restrictions on the combination of the surfactants: "mixtures obtained by mixing a surfactant having a number of addition chains of ethylene oxide of 15 or above and a higher HLB (especially a nonionic surfactant) for enhancing the emulsification stability and a surfactant having a small number of addition chains of ethylene oxide and a lower HLB (especially a nonionic surfactant) for lowering the dynamic surface tension in good balance are preferable." [0051]. Accordingly, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have optimized the weight ratio of the surfactants taught by Oharu using, for example, the ratio taught in example 1 as the starting point so as to obtain better balance between emulsification stability and low dynamic surface tension.

***Response to Arguments***

9. Applicant's arguments filed 06/17/2009 have been fully considered but they are not persuasive. Specifically, the applicant alleges that "Oharu lacks the guidance to one of ordinary skill needed to reach the features of the invention" (p. 3) because, while it teaches in Example 1 the embodiment mentioned in the Office action, it also teaches in Example 2 a composition lacking a surfactant with an HLB not less than 17, which is allegedly similar to the Comparative Example 4 in the instant application. The examiner maintains that the fact that the composition in Example 2 does not contain a surfactant having an HLB value not less than 17 does not in any way discourage one skilled in the art from manipulating and optimizing the ratio of surfactants taught in Example 1 because the compositions of Example 1 and Example 2 are two completely different

systems. That is, each system uses different polymerizable monomers in different quantities.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu Nguyen whose telephone number is (571)270-5454. The examiner can normally be reached on M-F 7:30-5:00 (Alternating Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Wu/  
Supervisory Patent Examiner, Art Unit 1796

Vu Nguyen  
Examiner  
Art Unit 1796

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